

Cropping Systems

Trinidad and the Caribbean

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Learning Objectives

Cropping Systems in the Caribbean



1

Types of systems used by farmers in the Caribbean
Advantages and disadvantages of these farming systems

2

Benefits of good cultural practices in crop production

3

Processes of mulching, moulding, staking, pruning, irrigating, fertilizing

4

Cultural practices associated with various crops"



Cropping System - a way of growing a crop or range of crops. Sometimes a combination of methods are used depending on the nature of the land, size of farm or type of crop production.



CROPPING SYSTEMS



1

MONOCULTURE

2

MIXED CROPPING

3

INTER-CROPPING

4

CROP ROTATION

5

PHASED CROPPING

6

STRIP CROPPING

7

MIXED FARMING

8

COVER CROPPING



1. Monoculture Cropping System



What is monoculture cropping system?

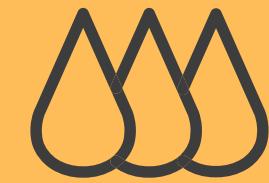
The continuous cultivation and production of only one crop on the same land for many years.

Example: sugarcane



Disadvantages:

1. Build up of pests and diseases which attack the crop.
2. Economic risk to cultivate only one crop
3. Destroy soil nutrients



Advantages:

1. Efficient and profitable to farmer - one type of practice
2. Higher yields - same processes for production

2. Mixed Cropping

Cultivation of two or more crops simultaneously on the same plot of land.

ADVANTAGES:

1. Provides income on a steady basis
2. Easier management of pest control
3. Easier management of fertilizer and weed application
4. Variety of crops produced
5. Control of soil erosion as different crops provide different forms of vegetative cover to soil.



Crops suitable for mixed cropping are pigeon peas, root crops and herbs.

3. Intercropping

The cultivation of a short-term crop such as lettuce, between the plants of a medium-term crop such as sweet pepper.

ADVANTAGES:

1. Quick income of the short term crop while the main crop develops
2. Utilizes space within the field
3. Soil fertility is maintained
4. Control soil erosion



4. Crop rotation

The cultivation of selected crops in succession (one after the other) on the same plot of land.

Example:
a sequence of tomato,
bean, lettuce and beetroot
helps to maintain the soil
fertility because the
legume crop adds nitrogen
to the soil

Rotation guide:
leaves, fruits, roots and legumes

Advantages:

1. Increases soil fertility and soil nutrients
2. Increases yield
3. Prevents soil erosion

Disadvantages:

1. Requires knowledge and skills
2. High risk

5. Phased cropping

A system of continuous cropping and harvesting.

- A plot is divided into four sections
- Planting dates are sequenced to allow continuous cropping and harvesting
- Maintain a regular supply of produce
- Prevents over supply



6. Strip cropping

- Cultivation of crops on sloping land
- Planting different crops in strips of varying width on flat, undulating or sloping land.



7. Mixed farming

- Production of both crops and livestock.





8. Cover cropping

- Used to improve soil fertility and to prevent soil erosion.
- Involves planting a crop that grows rapidly and provides a cover to bare soil.
- Planted after the main crop
- Adds organic matter to the soil

Cultural practices in Crop Production

-  MOULDING
-  MULCHING
-  STAKING
-  PRUNING
-  IRRIGATING
-  FERTILIZING



BENEFITS OF CULTURAL PRACTICES TO CROP PRODUCTION



IMPROVES SOIL FERTILITY



ENSURES OPTIMUM GROWTH



WEED MANAGEMENT



PEST AND DISEASE MANAGEMENT

MOULDING

Soil is scraped up and heaped around the base of the plant to form a small mound using a hoe or spade



BENEFITS:

- covers the roots of the plant
- aerates the soil
- creates root room for the growth of lateral roots
- gives support to the plant upright



MULCHING

Materials such as dry grass, leaves or plastic sheeting are placed on the soil surface around the base of the plants

BENEFITS:

- Conserves soil water
- Adds organic matter and humus
- Improves soil fertility
- Controls weed growth



STAKING

A wooden stick alongside a plant for support



BENEFITS:

- Supports plant with weak stems
- enables plant to grow upright
- keeps fruit high above the ground
- makes pruning, weed control and tillage easier.



PRUNING

Dry diseased or excessive twigs, leaves or branches of the plant are removed using a knife or secateurs.

BENEFITS:

- Improves the shape of the plant
- Enables air to circulate more
- Prevents spread of diseases



IRRIGATING

Applying water to the soil.

BENEFITS:

- Enables growth and development
- Prevents crop loss through wilting
- Helps to regulate supply of soil water



FERTILIZING

The application of fertilizers to crops plants.

BENEFITS:

- Promotes growth and development
- produces healthy plants
- improves and maintain soil fertility



Thank You

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